California Environmental Protection Agency
Air Resources Board

Children's Environmental Health Protection
Site Summary

Fruitvale

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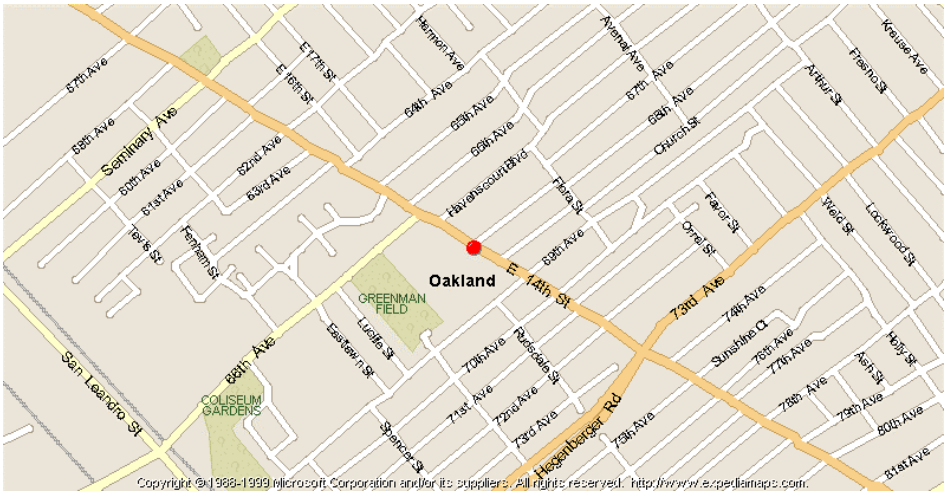
Site Location:

Monitoring for the Children's Environmental Health Protection Program in the Fruitvale area of Oakland will be conducted at Lockwood Elementary School. Lockwood Elementary is located at 6701 International Boulevard (East 14th Street) and is part of an educational complex that includes Havenscourt Middle School and a child development center. This educational complex is situated between the 580 and 880 freeways, approximately two miles southeast of an industrial area.

Site Approval:

In December of 2000 representatives of the Oakland Unified School District granted permission to the Air Resources Board (ARB) to install an ambient air monitoring station on the campus of Lockwood Elementary.



Expected Monitoring Start Date:

Collection of ambient air quality data at Lockwood Elementary School is expected to begin on or about November 1, 2001.

Reason for Choosing Fruitvale:

Fruitvale was chosen as one of the six sites for Children's Environmental Health Protection monitoring because it is impacted by several categories of pollutant emissions and because of the high school-age population in the area.

Fruitvale lies between two major East Bay freeways that are a significant source of vehicular emissions. The area is downwind of several industrial operations that are sources of criteria pollutant and air toxic emissions, including potential sources of dioxin. The Oakland International Airport, which is less than five miles from Lockwood Elementary, is a source of aircraft and ground-vehicle emissions.

Lockwood Elementary has a student population of nearly 1000. Havenscourt Middle School and the child development center, which are both adjacent to Lockwood, have a combined enrollment of over 800. There are an additional 20 public schools in the Fruitvale area between High Street and 98th Avenue.

Connection to Other Air Resources Board Programs:
Data collected at Lockwood Elementary will be used to support the ARB's Community Health Program (http://www.arb.ca.gov/ch/ch.htm) and will give local residents and decision-makers better information on pollutant exposures and their associated health risks (http://www.arb.ca.gov/ch/assess_risk.htm). The Lockwood site will provide data for the ARB's diesel program and will provide information on local ambient levels of dioxin as part of the ARB's dioxin monitoring project (http://www.arb.ca.gov/diesel/background.htm).

Monitoring Parameters:
Criteria pollutants, air toxics, and meteorological parameters will be measured using standard methods. Special instruments and methods will be used to approximate the concentration of diesel particulate and to assess the ambient levels of dioxin. Monitored pollutants will include carbon monoxide, ozone, oxides of nitrogen, sulfur dioxide, PM10, PM2.5 (real-time), and toxic gases and metals, including 1,3-butadiene, benzene, formaldehyde, and hexavalent chromium. Diesel particulate will be indexed to elemental carbon and black carbon measurements. Dioxin samples will be collected on PUF samplers followed by GC/MS assay. Meteorological parameters will include wind speed, wind direction, ambient temperature, and relative humidity.

Monitoring Schedule:
Monitoring for gaseous criteria pollutants (carbon monoxide, ozone, oxides of nitrogen, and sulfur dioxide) will be continuous for the duration of the project. PM2.5 and black carbon measurements will be made continuously in real-time or near real-time. PM10 samples will be collected once every six days for mass analysis and for elemental carbon analysis. Samples collected for analysis of aldehydes, total metals, and hexavalent chromium will also be conducted every sixth day, as will samples analyzed for toxic compounds including 1,3-butadiene, benzene, and toluene. Dioxin samplers will be run for 28 consecutive days every month for the duration of the project. Meteorological information at the site will be collected continuously.

Anticipated End Date:
The ARB anticipates that ambient air monitoring will end at Lockwood on or about November 1, 2002.

Monitoring at Multiple Sites in Oakland (Fruitvale):
Additional monitoring will be conducted at other locations within the Fruitvale community as required by the legislation authorizing the Children's Environmental Health Protection Program. The locations of these secondary, or "satellite sites," are under evaluation by the ARB.

Agencies/Resources/Roles:
The ARB is the lead agency for carrying out Children's Environmental Health Protection monitoring and has overall responsibility for the study. The Bay Area Air Quality Management District (BAAQMD) provided assistance in selecting the Lockwood station and may provide additional assistance in sample collection. ARB staff will conduct quality control and quality assurance activities.

Within the ARB, the Monitoring and Laboratory Division, Air Quality Surveillance Branch (Air Monitoring South Section and Special Purpose Monitoring Section) will have operational oversight for the station and will collect samples and perform instrument quality control checks on an ongoing basis. The Quality Management Branch (Operations, Planning and Assessment Section) will have the lead role in coordinating and tracking the project, validating the data, and preparing the initial project report. The Organic and Inorganic Laboratory Sections will perform the analytical work.

The Planning and Technical Support Division is coordinating the Community Health Program and will use the data generated at the Lockwood Elementary monitoring station to support other Community Health studies currently under development. The information gathered may assist in developing health risk assessments at the neighborhood level. Public outreach for the program is being coordinated by the Planning and Technical Support Division.

Emission Sources:
An industrial area to the northwest of the Lockwood site includes a glass manufacturing facility, a concrete batch plant, and a medical waste incinerator. Major freeways located to the west and east of the site, and the Oakland International Airport, are significant sources of vehicle and aircraft exhaust. Other sources of air pollution within the Fruitvale area include neighborhood scale sources such as dry cleaners and service stations.

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